



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,461	01/07/2005	Takahiro Kishioka	122364	5518
25944 7590 02/18/2009 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
WALKE, AMANDA C				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
02/18/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/520,461

Applicant(s)

KISHIOKA ET AL.

Examiner

Amanda C. Walke

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-8 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-8 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/28/08 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4-8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kang et al (6,468,718) in view of Mizutani et al (2003/0198894) or Bonk et al (4,731,273 or 4,751,269).

Kang et al disclose an anti-reflective layer to be coated onto a substrate prior to the coating of a layer of photoresist, wherein the ARC layer comprises a polymer having an anthracene substituent, may have a triazine initiator (see examples 1-5), and comprises any

known crosslinker such as a melamine compound (column 10, lines 4-21), however, the reference fails to teach the instantly claimed compound. The method of the reference meets the instant claim limitations as described in column 10, lines 31-column 11, line 15. As taught by Kang, and recited even in the abstract, the layer has good adhesion to a substrate and may have a layer of resist coated thereon. Furthermore, the reference teaches that dry etching may be performed to etch the anti-reflective layer and other underlying layers (which would include the substrate layer).

Mizutani disclose a resist composition comprising a crosslinking compound. The known melamine crosslinkers described by the reference include a compound meeting the instant claim limitations (see page 5, formula 4).

The Bonk et al references teach adhesive resins having known crosslinker compounds such as tetrabutoxymethyl urea which is described on page 8 of the instant specification as a preferred compound of formula 1.

It would have been obvious to one of ordinary skill in the art to prepare the material of the Kang et al reference choosing the known melamine crosslinker taught by Mizutani et al or the crosslinker of either Bonk et al reference as the melamine crosslinker.

Response to Arguments

3. Applicant's arguments filed 11/28/08 have been fully considered but they are not persuasive. Applicant has again argued that the materials of the reference fail to teach a composition wherein the condensation product or resin produced has a content of 50% mass or more in solid content, and that the instant claims require an antireflective coating and the materials of the reference are resists. The materials of the references do teach that the

crosslinking agent is present in the composition from 3- 70%, preferably 5-50 % of the total solid content of the resist composition, which meets the instant claim limitations (see [0276] of Mizutani). With respect to the comments pertaining to the type of coating, the examiner notes that the claims simply require that a coating material comprise the instantly claimed components, which the resist layer of the reference does. The examiner takes the position that the materials of the reference comprise the materials instantly claimed therefore the layer meets the claim limitations despite the recitation that the coating is an "anti-reflective" coating which is an intended use limitation. Furthermore, the reference teaches that the composition comprising the radiation absorbing material may have a resist coated thereon and that the layers may be subjected to dry etching (column 10), therefore the rejection is maintained.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C. Walke whose telephone number is 571-272-1337. The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amanda C Walke
Primary Examiner
Art Unit 1795

/Amanda C Walke/
Primary Examiner, Art Unit 1795